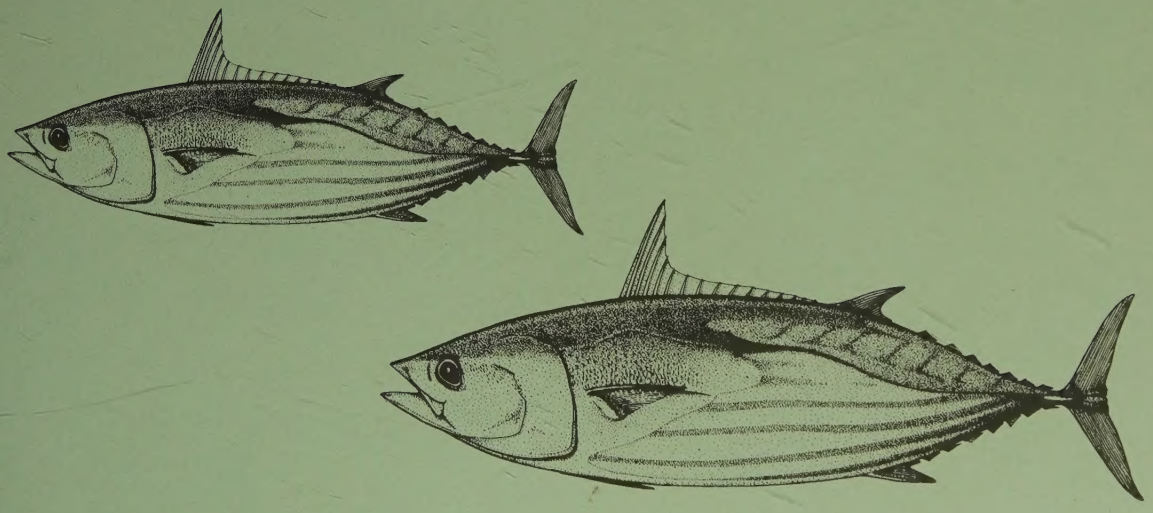
September 1974
No. 9

FISHING INFORMATION

Southwest Fisheries Center-La Jolla, California



noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL MARINE FISHERIES SERVICE

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
8604 LA JOLLA SHORES DRIVE - P. O. BOX 271
LA JOLLA, CALIFORNIA 92037

FISHING INFORMATION

SEPTEMBER 1974, No. 9

B. J. Rothschild, Director, SOUTHWEST FISHERIES CENTER
I. Barrett, Deputy Director
R. Shomura, Director, Honolulu Laboratory

PREFACE

This publication, Fishing Information, appears monthly and contains 1) fishery advisory information, 2) a narrative description of pertinent surface temperature conditions, 3) a narrative description of subsurface temperature structure for parts of the North Pacific, 4) charts of winds and pressures for the eastern North Pacific, 5) charts of sea surface temperature for the North Pacific and eastern tropical Pacific, and 6) charts of subsurface temperature structure in the eastern North Pacific.

A supplement to Fishing Information appears at 15-day intervals throughout the year. This is a chart of sea surface temperature (contoured at 2°F (1°C) intervals) from Baja California to Vancouver Island out to about 135°W. Special bulletins are published in conjunction with the 15-day sea surface temperature charts which include short-term projections of albacore distribution and locations of productive fishing areas, information on oceanographic and atmospheric conditions, and other information as is appropriate during the albacore fishing season.

L. E. Eber, Leader
Fishery Information Systems
Southwest Fisheries Center
La Jolla, California

Submitted for publication - October 23, 1974

CONTENTS

PAGE

Acknowledgements iv

Sea Surface Temperature and Environmental Conditions - September 1974, L.Eber and F.Miller.. 1

Subsurface Temperature Structure in the Northeast Pacific Ocean, J.F.T.Saur..... 3

ENVIRONMENTAL CHARTS, PACIFIC OCEAN - September 1974

Figure 1. Fourteen-year mean (1961-1974) observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots) and average wind speed (knots) regardless of direction..... 4

Figure 2. Observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots) and average wind speed (knots) regardless of direction..... 5

Figure 3. Mean sea surface temperature, eastern North Pacific Ocean. Squares show temperatures at weathership stations. Numerals on shore are temperatures at coastal and lightship stations..... 6

Figure 4. Mean sea surface temperature chart, western North Pacific Ocean..... 7

Figure 5. Deviation of sea surface temperatures, eastern North Pacific Ocean from 20-year mean (1948-67). Hatched areas are colder in 1974..... 8

Figure 6. Deviation of sea surface temperatures, western North Pacific Ocean from 20-year mean (1948-67). Hatched areas are colder in 1974..... 9

Figure 7. Deviation of sea surface temperatures, eastern North Pacific Ocean from those of September 1973. Hatched areas are colder in 1974..... 10

Figure 8. Mean sea surface temperatures, eastern tropical Pacific Ocean. Numerals on shore are temperatures at coastal stations..... 11

Figure 9. Deviation of sea surface temperatures, eastern tropical Pacific Ocean from 20-year mean (1948-67). Shaded areas are colder in 1974. Contours are dashed in sparse data areas..... 12

Figure 10. Surface temperature and salinity and subsurface temperature structure from expendable bathythermograph observations between Honolulu and Seattle: August 12-18, 1974..... 13

Figure 11. Surface temperature and salinity and subsurface temperature structure from expendable bathythermograph observations between Honolulu and San Francisco: August 25-31, 1974..... 14

Figure 12. Surface temperature and salinity and subsurface temperature structure from expandable bathythermograph observations between Honolulu and Los Angeles: August 31-September 4, 1974..... 15

ENVIRONMENTAL CHARTS ANALYZED BY:
L.Eber (Figures 4 and 6)
F.Miller (Figures 8 and 9)
J.Renner (Figures 1,2,3,5,7, and 15-day Supplement)
J.F.T.Saur (Figures 10,11, and 12)

TECHNICAL EDITOR:
K.Raymond

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R.Allen

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Pacific Environmental Institute, Fisheries Research Board of Canada, West Vancouver, British Columbia, by L.F. Giovando from observations by S.G. Westhaver at Langara Island Light; D.L. Kupillas at Cape St. James Light; L. Collins at Kains Island Lightstation; J.G. McNeil at Amphitrite Point Light.
Scripps Institution of Oceanography, La Jolla, California
Fishing vessels, Aquarius, Bette M., Bold Contender, Cheryl Marie, Christina C., City of San Diego, Conquest, Dominator, Elizabeth C.J., Francis Ann, Gina Karen, Kathleen, Larry Roe, Lois Seaver, Maria Elena, Marietta, Mary Barbara, Pacific Queen, Pan Pacific, Patricia Lee, Polaris, Queen Mary, San Juan, Santa Rosa, Saratoga, Sea Quest, Theresa Ann, United States, Willa G.

Expendable bathythermograph and salinity observations are made by the mates and engineers of the Hawaiian Enterprise and Californian of Matson Navigation Co., and the S.S. Mariposa of Pacific Far East Line. The data are processed under supervision of D.R. McLain at the NMFS Pacific Environmental Group, Monterey, using computer facilities of the Fleet Numerical Weather Center. The project is partially supported by the National Science Foundation and the Office of Naval Research under Government Order NAonr-9-74.

Sea Surface Temperature and Environmental Conditions

L. EBER AND F. MILLER

Eastern North Pacific

Sea surface temperature changes between August and September are, on the average, relatively small in the eastern North Pacific Ocean. Consequently, the pronounced warming which occurred in September 1974 at mid-latitudes east of 145°W, and comparable cooling west of 155°W, caused significant alteration of the anomalous temperature pattern (Figure 5). Surface waters off the U.S. and Canadian coasts out to 145°W, which had below-normal temperatures in August, warmed to more than 2°F (1.1°C) above normal in some areas. Only the near-shore California coastal waters remained cooler than normal. Temperatures off Baja California also continued to be relatively low.

The anomalous cooling west of 155°W is reflected by a southward spreading of negative deviations to about 29°N and reduced positive deviations between 25° and 29°N. Temperatures to the north and northeast of Hawaii continued to be above normal.

Barometric pressures in September 1974 reveal a weak trough extending southeastward from the Alaska Peninsula toward what is normally the center of the eastern North Pacific High (Figures 1 and 2). Along the coast, the axis of high pressure was shifted north from its normal position toward southeast Alaska, and high pressure was also displaced northward along 175°W, west of the low pressure trough. These deviations of surface pressure were associated with an anomalous surface wind pattern which appears to be directly related to the anomalous warming and cooling in the surface layers. East of 150°W, where the warming occurred, the differences between the resultant wind vectors for September 1974 and the long-term mean yields northward components, which contributed to the increase in temperature, through reduced transport of cold water southward and reduced loss of heat by evaporation. Similarly, in the region west of 150°W, the resultant winds in 1974 had anomalous southward components, causing increased transport of cold water southward and decreasing temperatures.

Western North Pacific

Mid-latitudes of the western North Pacific also experienced significant changes in surface temperature conditions, as unseasonal warming nearly obliterated the pool of cold water which developed in July and August in the vicinity of 40°-45°N, 165°-170°E. Negative deviations from normal were reduced, in this region, from more than 4°F (2.2°C) in August 1974 to near zero in September (Figure 6). Positive deviations east of Hokkaido along 150°E spread eastward to 165°E and southward to 25°N.

The anomalous warming of surface temperatures was related to persistent southerly winds between 155° and 170°E, which were associated with anticyclonic circulation systems centered at various latitudes between 170° and 180°E throughout September. The northward bulge of the 1016 and 1012 isobars near the western edge of Figure 2 reflects these systems.

Eastern Tropical Pacific

From August to September, seasonal changes in sea surface temperatures are normally less than 1°F (0.5°C) over most of the eastern Pacific Ocean between 30°N and 30°S. Temperatures in the Peru Current and along the Equator approach their seasonal minimum values in September. The equatorial ocean front between the coast of Ecuador and the Galápagos Islands has its strongest north-south gradients from August through October in most years. This front marks the northern boundary of equatorial upwelling and is normally a persistent feature as far west as 130°W, and just north of the equator.

In September 1974, sea surface temperatures were close to normal for the third consecutive month over most of the eastern tropical Pacific, with only a few notable exceptions. In the southern hemisphere (Figures 8 and 9) normal upwelling in the Peru Current and along the equator was reflected by the narrow tongue of low temperatures characterized by weak anomalies except from 5°S to the equator between 110°W and 130°W, where the surface temperatures remained 2°F to 4°F (1.1°C to 2.2°C) below normal. In this area, both cloud cover and surface wind speeds were slightly befow normal. The positive temperature anomaly near the Galápagos Islands (Figure 9) was associated with weaker than normal surface winds and a southward movement of the equatorial front.

The only significant feature in the northern hemisphere was an area of relatively cold water extending eastward from 110°W between 5°N and 15°N (Figures 8 and 9). This cool water was evident in August 1974 also. It was associated with steady southerly winds exceeding 12 knots and frequent tropical storm activity in the eastern tropical Pacific particularly in September 1974.

Subsurface Temperature Structure in the Northeast Pacific Ocean

J. F. T. Saur

Subsurface temperature sections are presented in this issue for three different ship routes between Hawaii and the U.S. west coast: Honolulu-Seattle (Figure 10), Hilo-San Francisco (Figure 11), and Honolulu-Los Angeles (Figure 12). The observations were taken in mid-to-late August for the first two sections and early September for the last.

On the Seattle route (Figure 10), observations were made more frequently between 30°N and 41°N than on the remainder of the route, and multiple observations (denoted by "M" in Figure 10) were made in four observational periods for special studies of variability. On the San Francisco route (Figure 11), the ship departed from Hilo rather than Honolulu, so that the track lies south of the usual Honolulu-San Francicso route and the longitudes and distances on the prepared base for the vertical section are only approximate, especially within 500 miles of Hawaii. The framed portion in the lower right part of the vertical section in Figure 11 indicates a region where the contours are based on only a few data points. On the Los Angeles route (Figure 12), observations by the S.S. Mariposa have been supplemented with some taken 1 week earlier by the Hawaiian Enterprise.

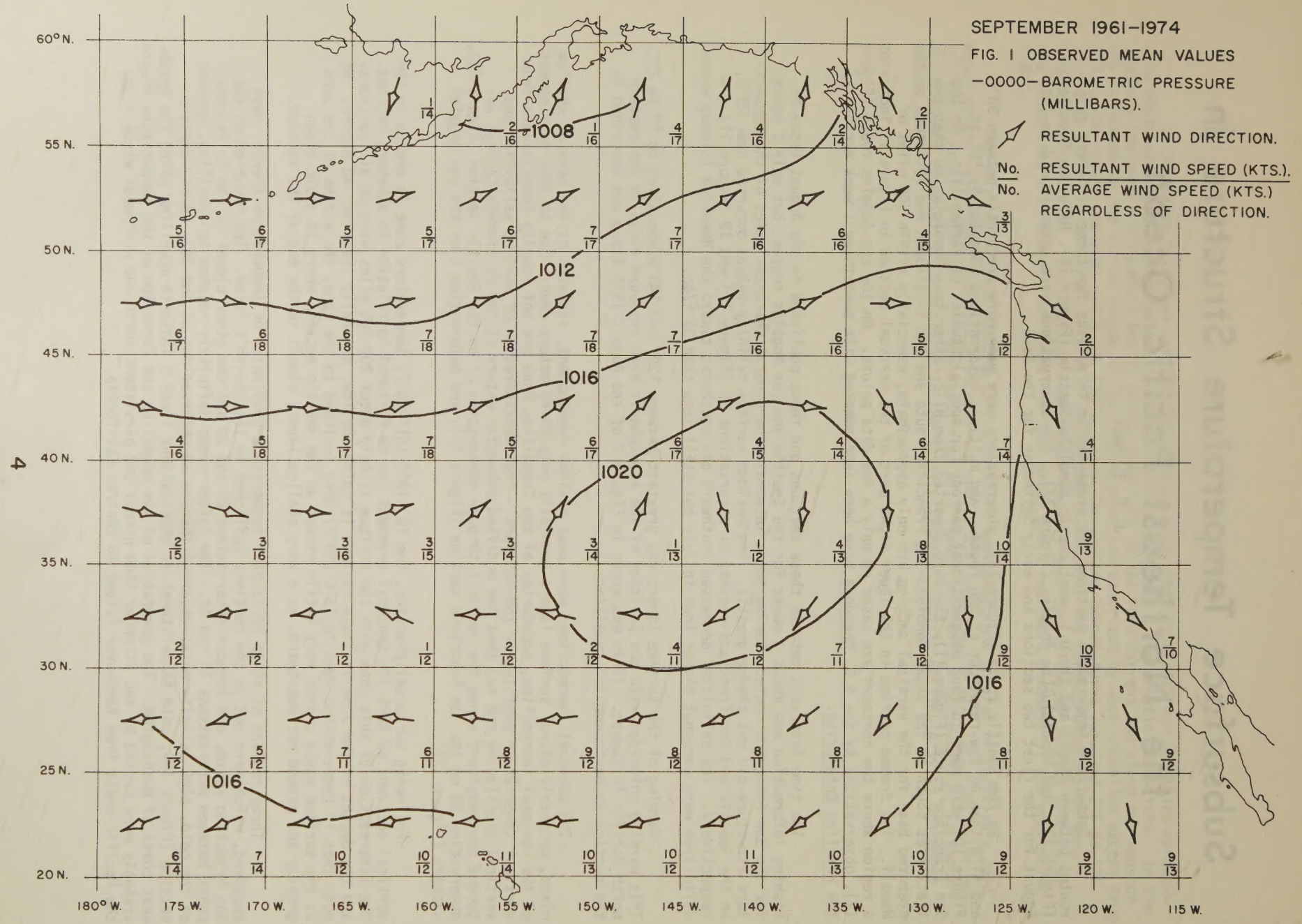
The time intervals between these sections and those published in the August issue of Fishing Information are about 3 weeks for the Seattle and Los Angeles routes, but only 2 weeks for the San Francisco route. During these intervals the general characteristics of the temperature structure did not change greatly. The maximum surface salinity values occurred near 29°N, on the Seattle and San Francisco routes, at observations 56 (Figure 10) and 18 (Figure 11) respectively. The salinities decreased southward and southwest toward the Hawaiian Islands where salinities were somewhat higher than in July but still less than 35 $^{o}/_{oo}$.

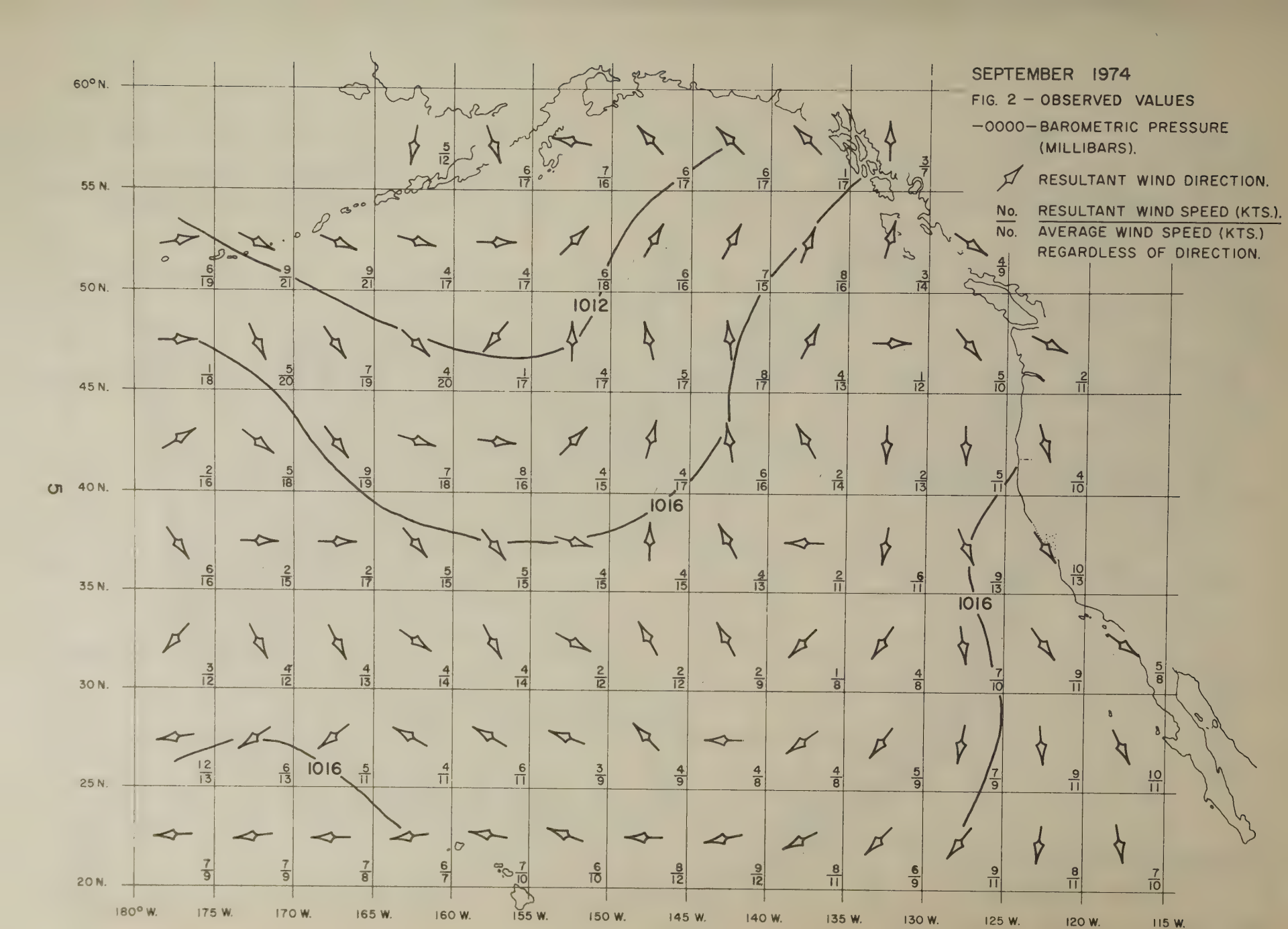
Warming of the surface layers was greatest between 130° and 145°W amounting to 1° to 2°C. This warming coincided with the position of the atmospheric high pressure ridge in the eastern north Pacific in August. (This was shown in Figure 2 of the August 1974 issue and described in the section on environmental conditions.)

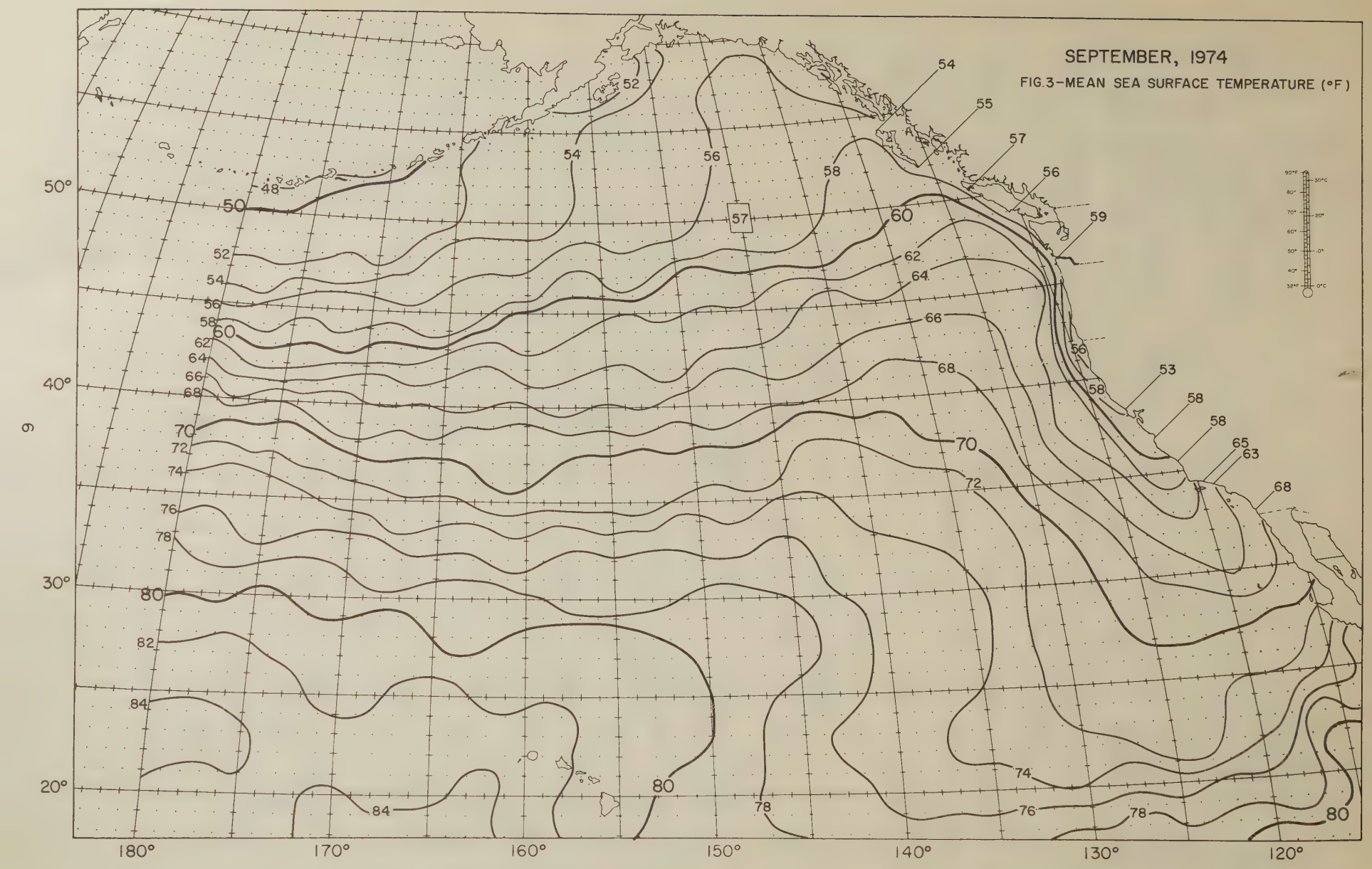
The seasonal thermoclines were near maximum development, situated at the base of shallow mixed, or nearly mixed, surface layers generally only 20-40 meters deep. Due to this development of the seasonal thermocline, boundaries of the Transition Zone are not readily identifiable from vertical temperature profiles or the sections. From consideration of surface salinities and vertical profiles we can say that the modified subarctic waters of the California Current extended southwestward along the sections through observation 21 on the Seattle section (Figure 10), observation 29 on the San Francisco section (Figure 11), and observation 4 on the Los Angeles section (Figure 12).

Following our usual practice, the 16°-19°C (61°-66°F) temperature zone is shaded in the vertical sections so that its seasonal movement can be followed in relation to albacore catches. The intersection of this zone with the surface is only about 200-400 miles wide on all sections, and the depths of the zone in these regions is quite shallow, generally less than 40 meters. We note that if temperatures down to 15°C (59°F) were included in the zone, the widths of the zone at the surface would change very little except on the Seattle section where it would widen greatly and extend northeastward, as a very shallow layer, almost to the end of the section.

Three regions of steep horizontal temperature gradients, or temperature fronts, have appeared, which were not in the sections published in last month's issue. Two occurred on the San Francisco route, one between observations 29 and 30 and the other closer to the California coast between observations 33 and 34. The latter seems definitely related to upwelling, because of the cold, high salinity water observed inshore at observations 35 and 36. On the Seattle section (Figure 10), cold temperatures at observations 1 and 2 indicate upwelling along the Northwest coast of Washington. The generation of the upwelling and formation of the temperature fronts probably were caused by the stronger than normal and persistent north and northwest winds along the Pacific coast from Vancouver Island to central California.

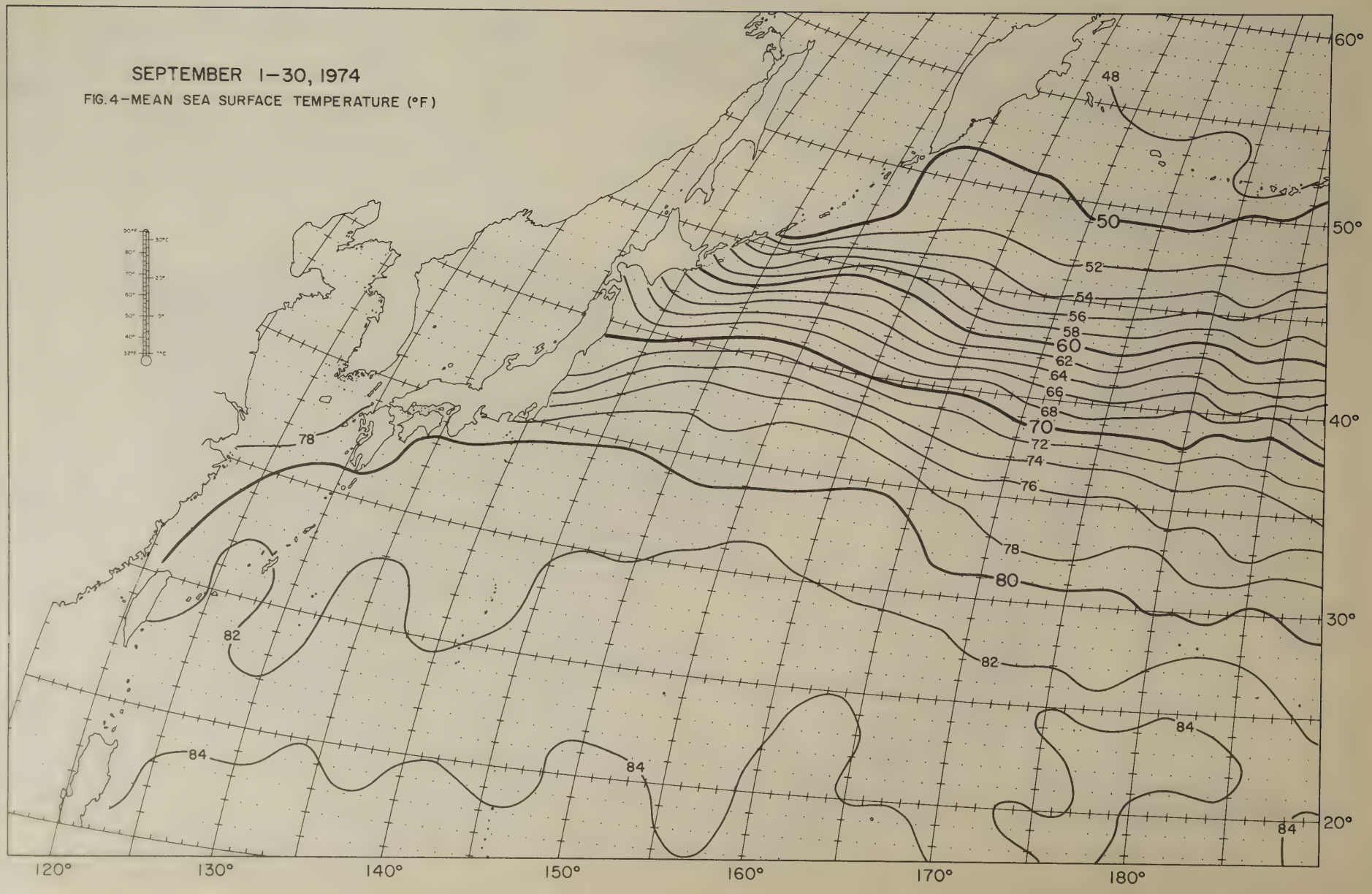

SEPTEMBER 1961–1974
FIG. 1 OBSERVED MEAN VALUES
—0000— BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.).
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1008
1012
1016
1020
1016
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

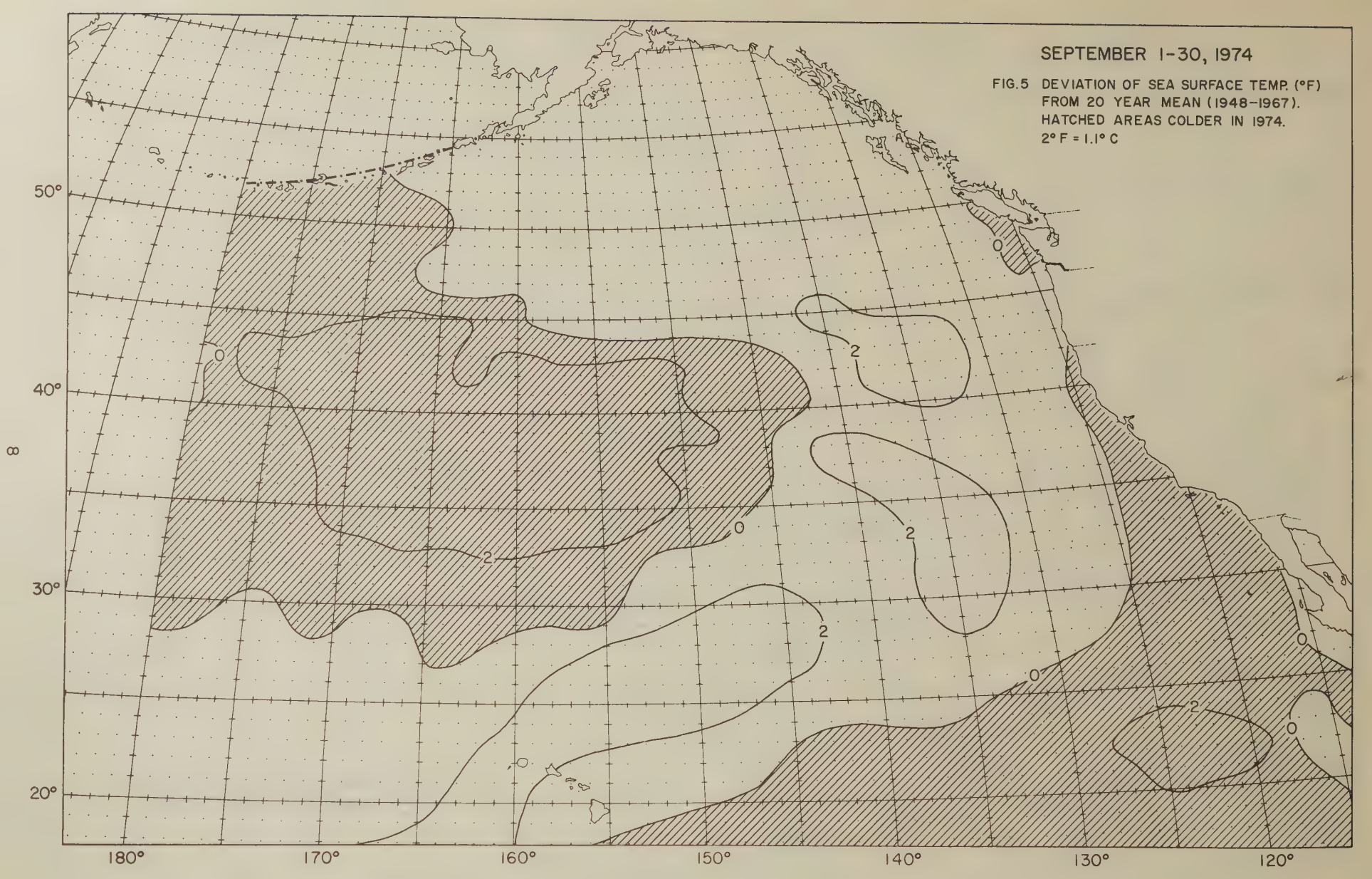

SEPTEMBER 1974
FIG. 2 – OBSERVED VALUES
–0000– BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.).
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1012
1016
1016
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

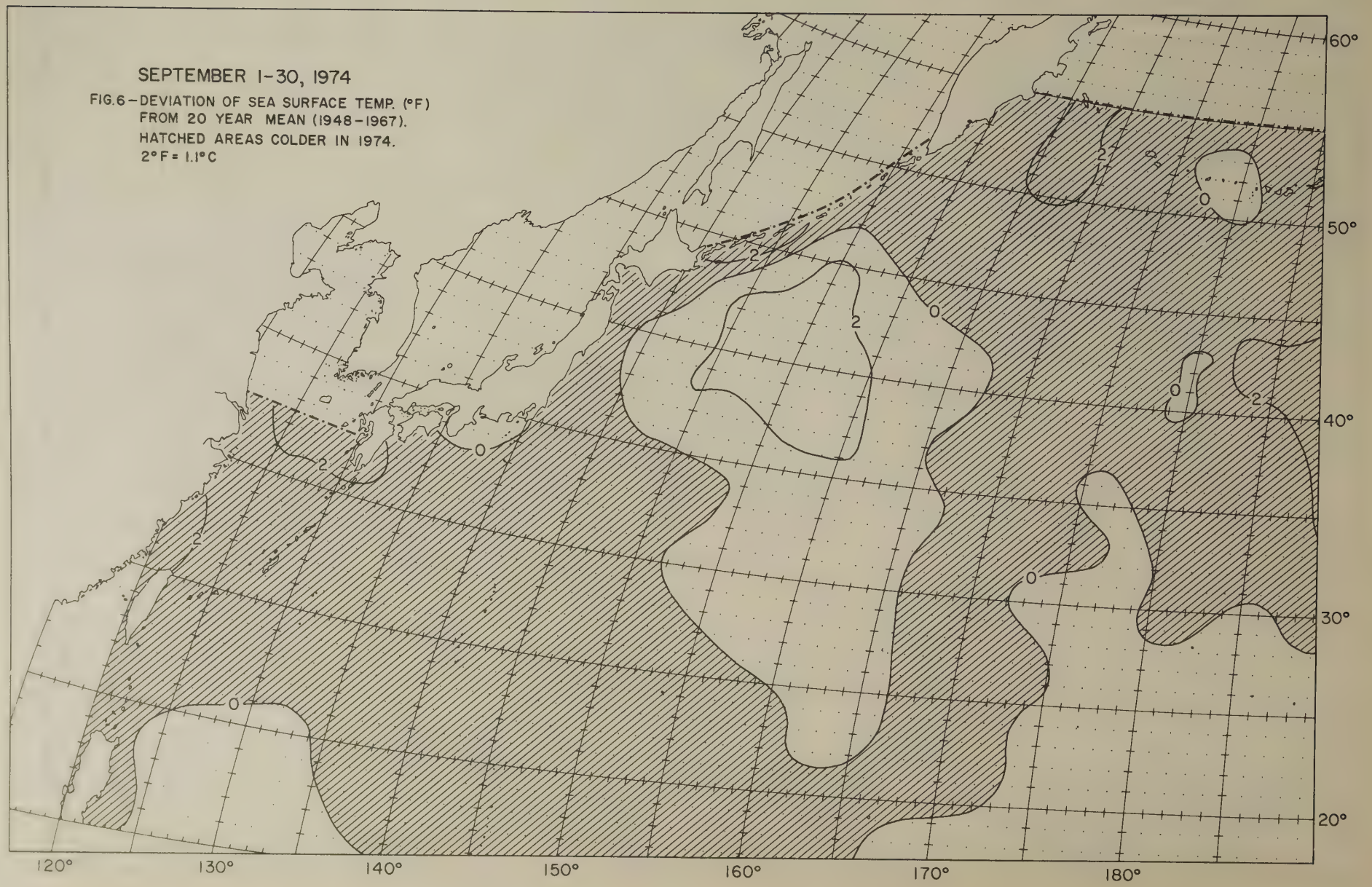

SEPTEMBER, 1974
FIG.3-MEAN SEA SURFACE TEMPERATURE (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
9

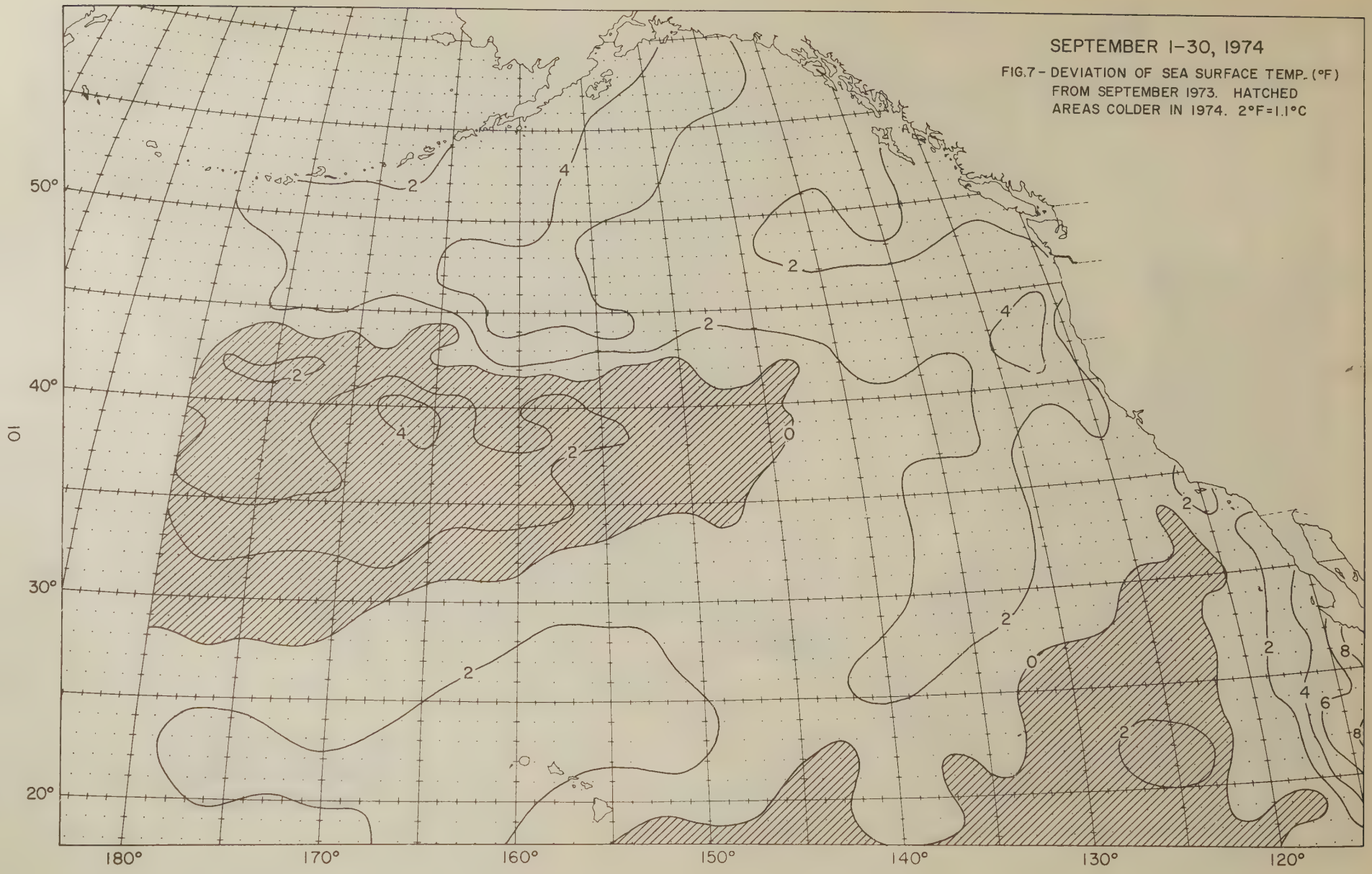
SEPTEMBER 1–30, 1974

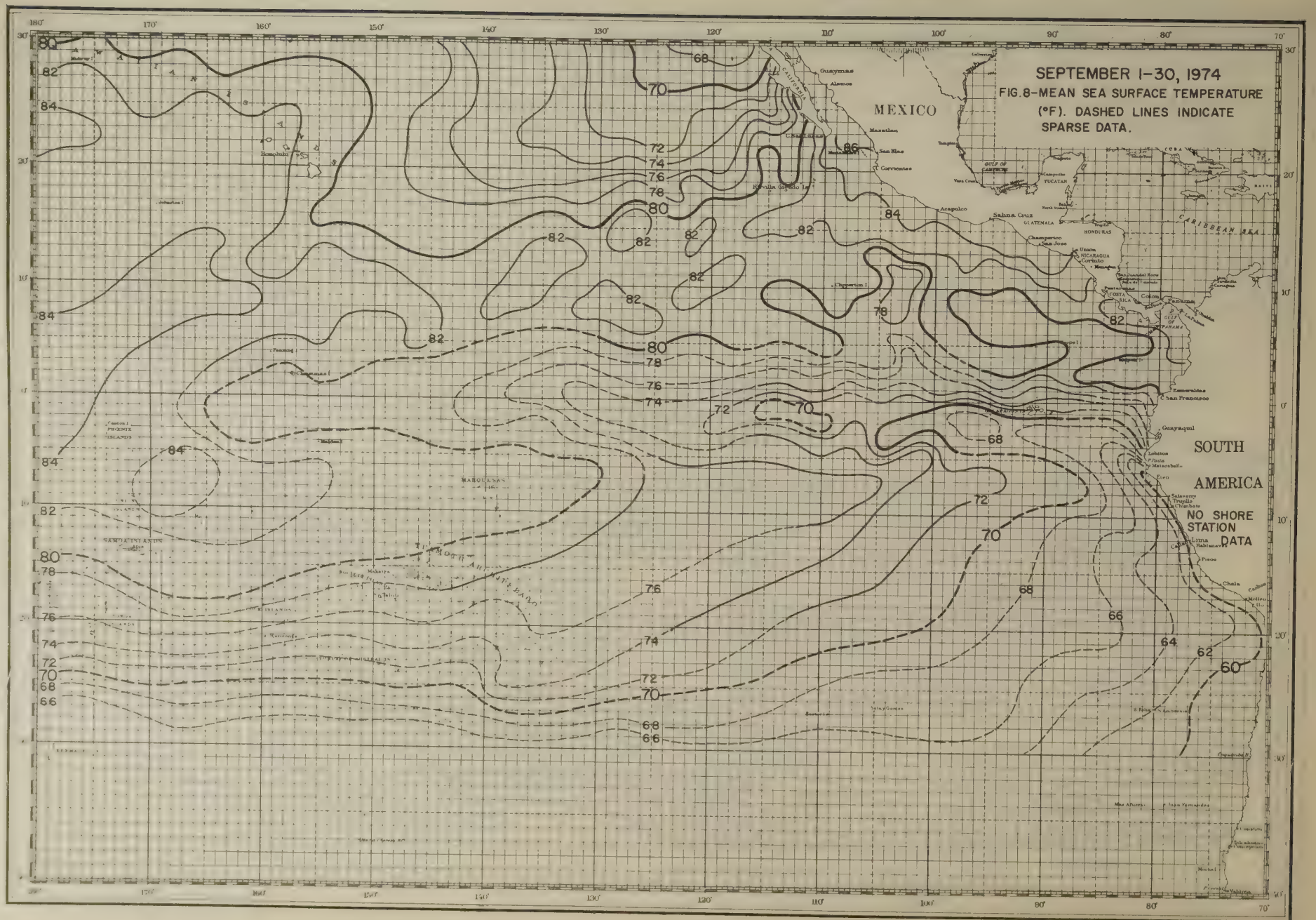
FIG. 4–MEAN SEA SURFACE TEMPERATURE (°F)




SEPTEMBER 1-30, 1974
FIG.5 DEVIATION OF SEA SURFACE TEMP. (°F) FROM 20 YEAR MEAN (1948-1967). HATCHED AREAS COLDER IN 1974.
2° F = 1.1° C
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
0
2


SEPTEMBER 1-30, 1974
FIG.6-DEVIATION OF SEA SURFACE TEMP. (°F) FROM 20 YEAR MEAN (1948-1967).
HATCHED AREAS COLDER IN 1974.
2°F = 1.1°C
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°
0
2


SEPTEMBER 1-30, 1974
FIG.7 - DEVIATION OF SEA SURFACE TEMP. (°F) FROM SEPTEMBER 1973. HATCHED AREAS COLDER IN 1974. 2°F=1.1°C
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
10


SEPTEMBER 1-30, 1974
FIG.8-MEAN SEA SURFACE TEMPERATURE (°F). DASHED LINES INDICATE SPARSE DATA.
MEXICO
SOUTH AMERICA
NO SHORE STATION DATA
CARIBBEAN SEA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
Guaymas
Mazatlan
Acapulco
Salina Cruz
Champerico
Corinto
Guayaquil
Callao
Lima
Pisco
Chala
Honolulu
PHOENIX ISLANDS
MARQUESAS
SAMOA ISLANDS
TUAMOTU ARCHIPELAGO

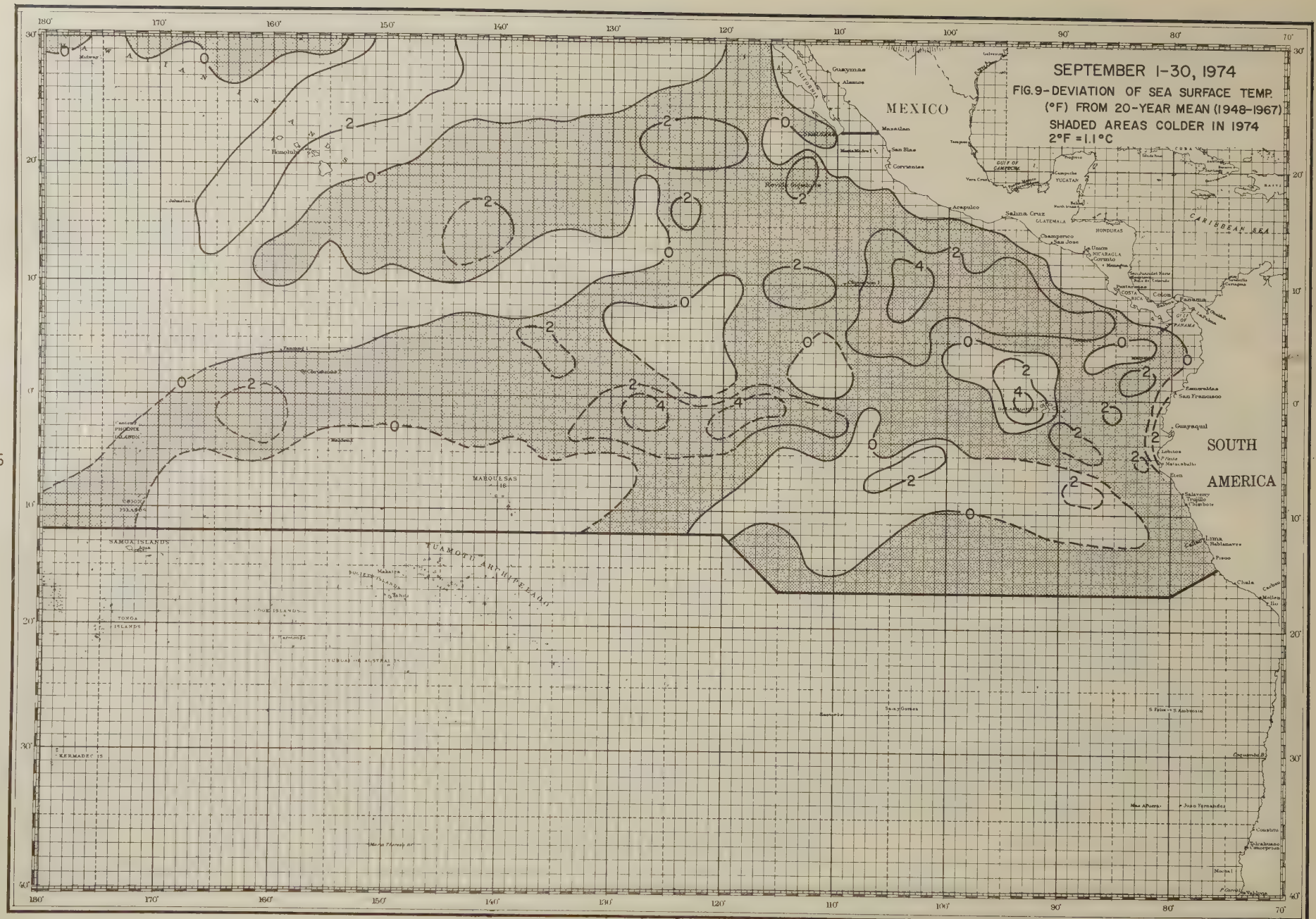
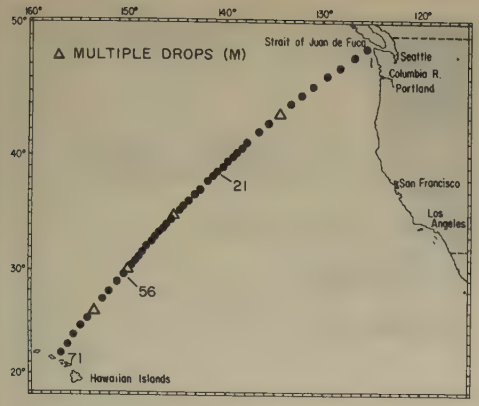
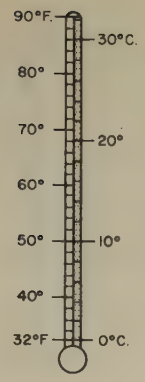

SEPTEMBER 1-30, 1974
FIG. 9 - DEVIATION OF SEA SURFACE TEMP. (°F) FROM 20-YEAR MEAN (1948-1967)
SHADED AREAS COLDER IN 1974
2°F = 1.1°C
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GUATEMALA
HONDURAS
COSTA RICA
PANAMA
CUBA
YUCATAN
GULF OF CAMPECHE
GULF OF PANAMA
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Acapulco
Salina Cruz
Champerico
San Jose
Colon
Esmeraldas
San Francisco
Guayaquil
Salaverry
Trujillo
Chimbote
Lima
Pisco
Chala
Callao
Mollendo
Arica
Iquique
Antofagasta
Coquimbo
Valparaiso
Juan Fernandez
Mas Afuera
Talcahuano
Concepcion
Corral
Corcovado
Chiloe
Puerto Montt
Ancud
Melinka
Puerto Aysen
Puerto Natales
Punta Arenas
Cape Horn
Easter Island
Pitcairn Island
Henderson Island
Ducie Island
Oeno Island
Tubuai Islands
Tuamotu Archipelago
Marquesas Islands
Society Islands
Tahiti
Samoa Islands
Tonga Islands
Fiji Islands
Phoenix Islands
Line Islands
Hawaiian Islands
Honolulu
Johnston I.
Fanning I.
Christmas I.
Malden I.
Palmyra I.
Jarvis I.
Howland I.
Baker I.
Kermadec Is.
Juan Fernandez Is.
Sala y Gomez
Nazca
Easter I.
Marquesas
Tahiti
Tuamotu Archipelago
Tubuai Islands
Tonga Islands
Fiji Islands
Samoa

FIGURE 10.





HONOLULU — SEATTLE
(Makapuu Pt. — St. of Juan de Fuca)

AUGUST 12-18, 1974

CALIFORNIAN

VOYAGE 246

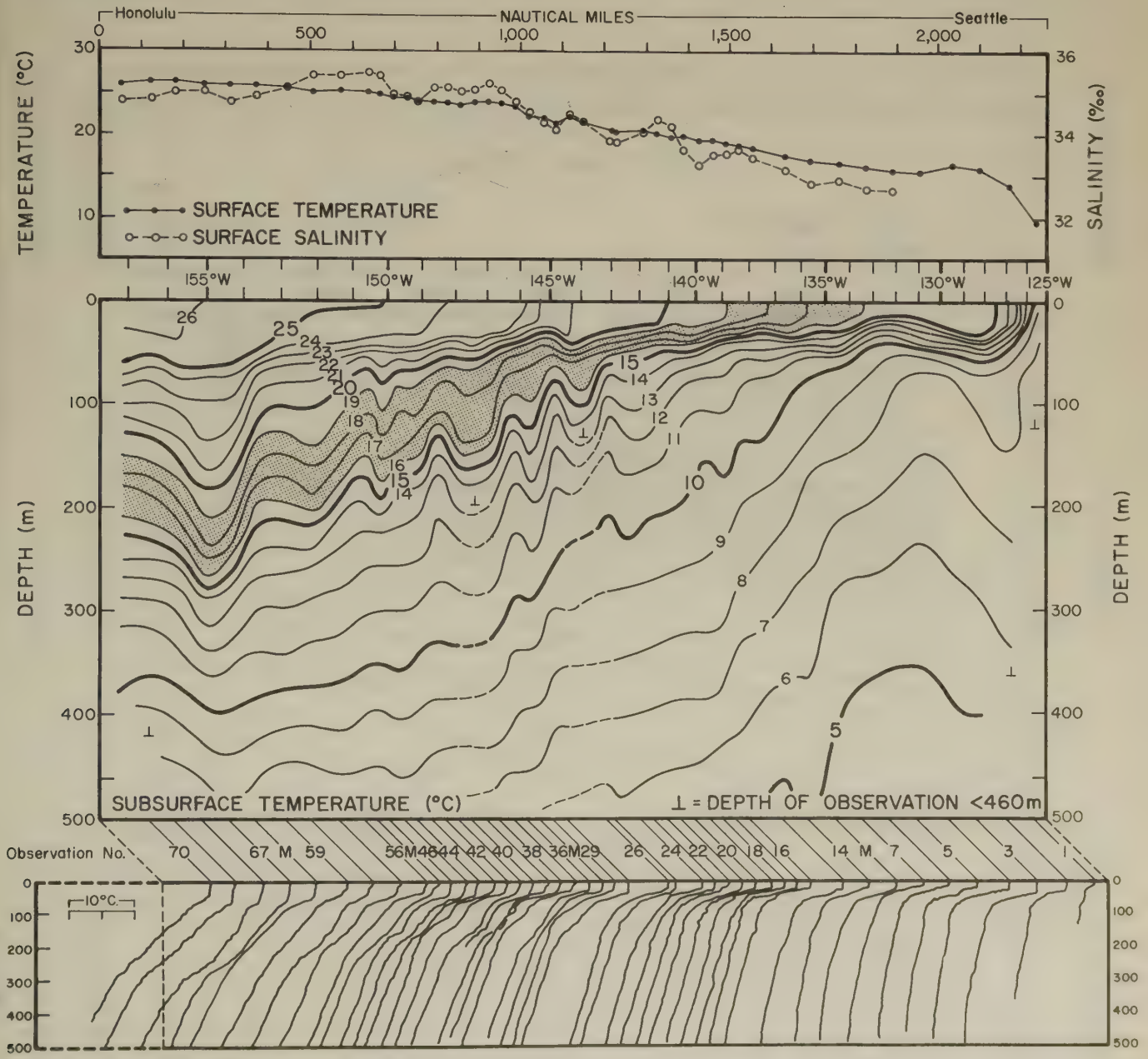
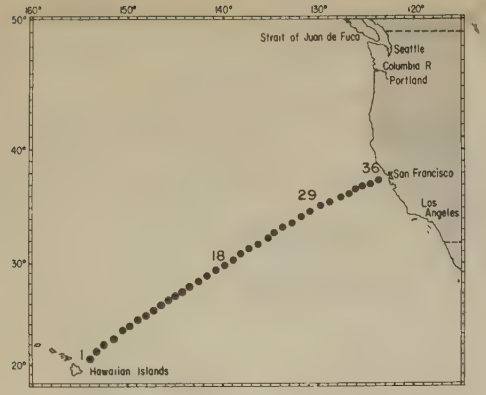
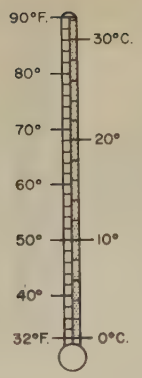


FIGURE 11.





HILO – SAN FRANCISCO

AUGUST 25-31, 1974

CALIFORNIAN

VOYAGE 246

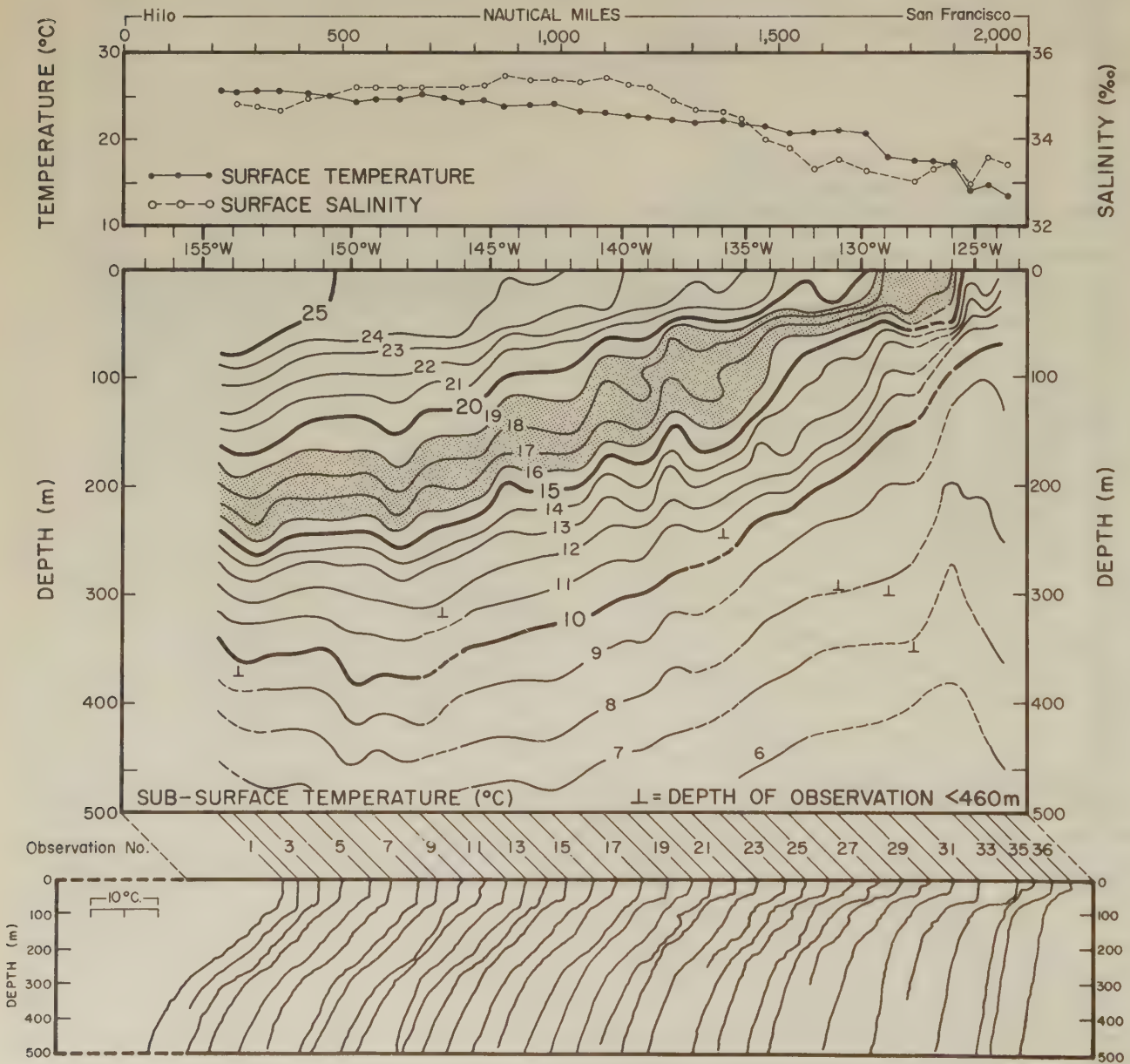
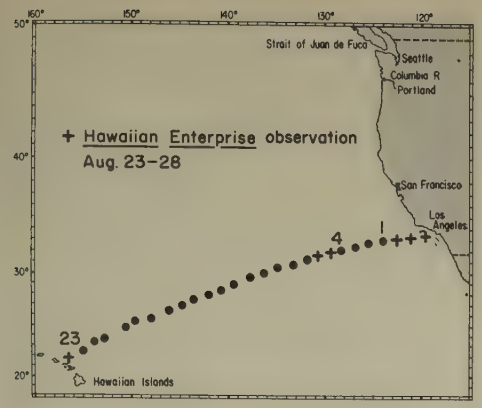
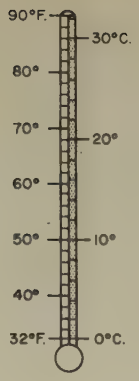


FIGURE 12.



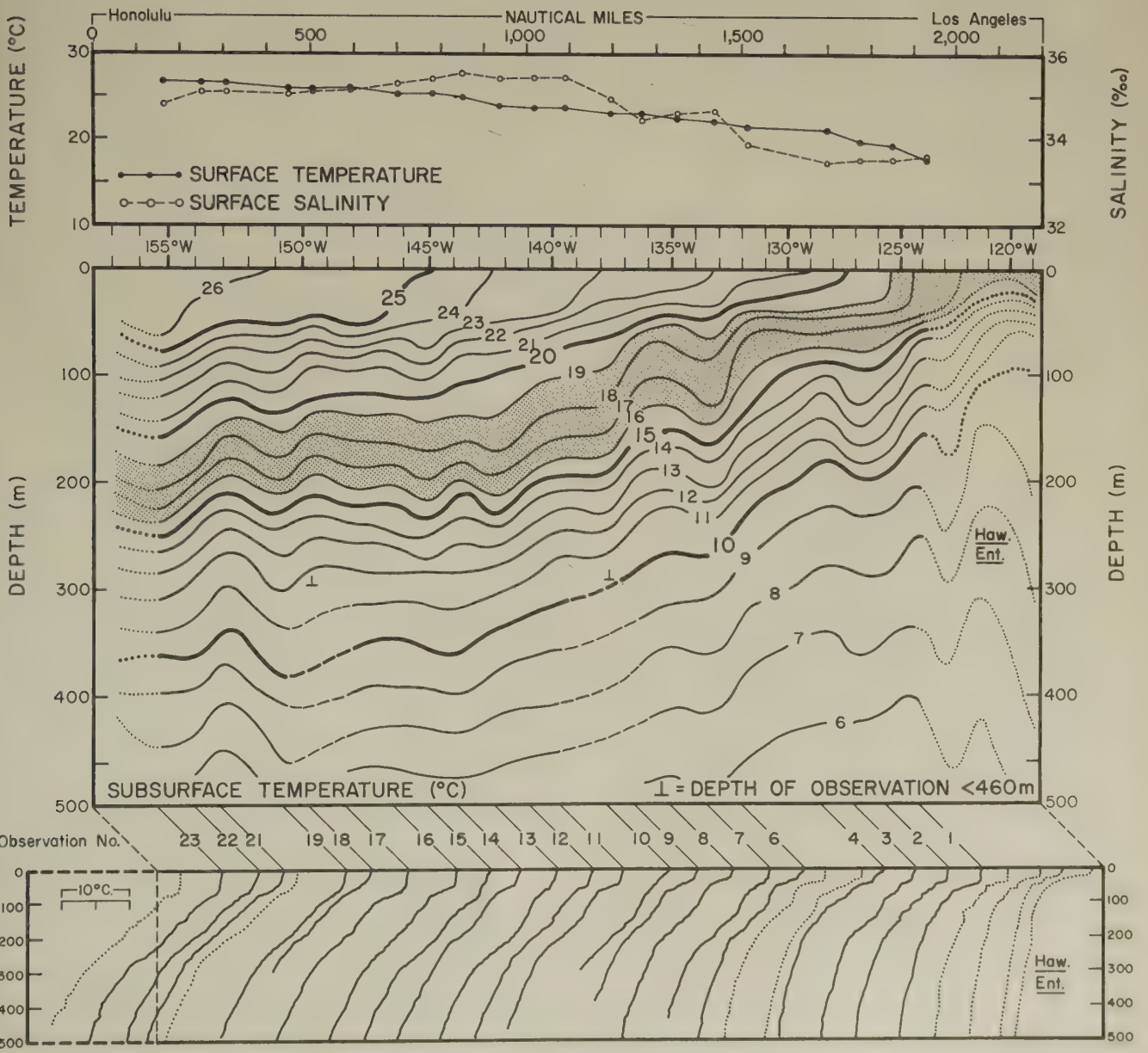


HONOLULU — LOS ANGELES

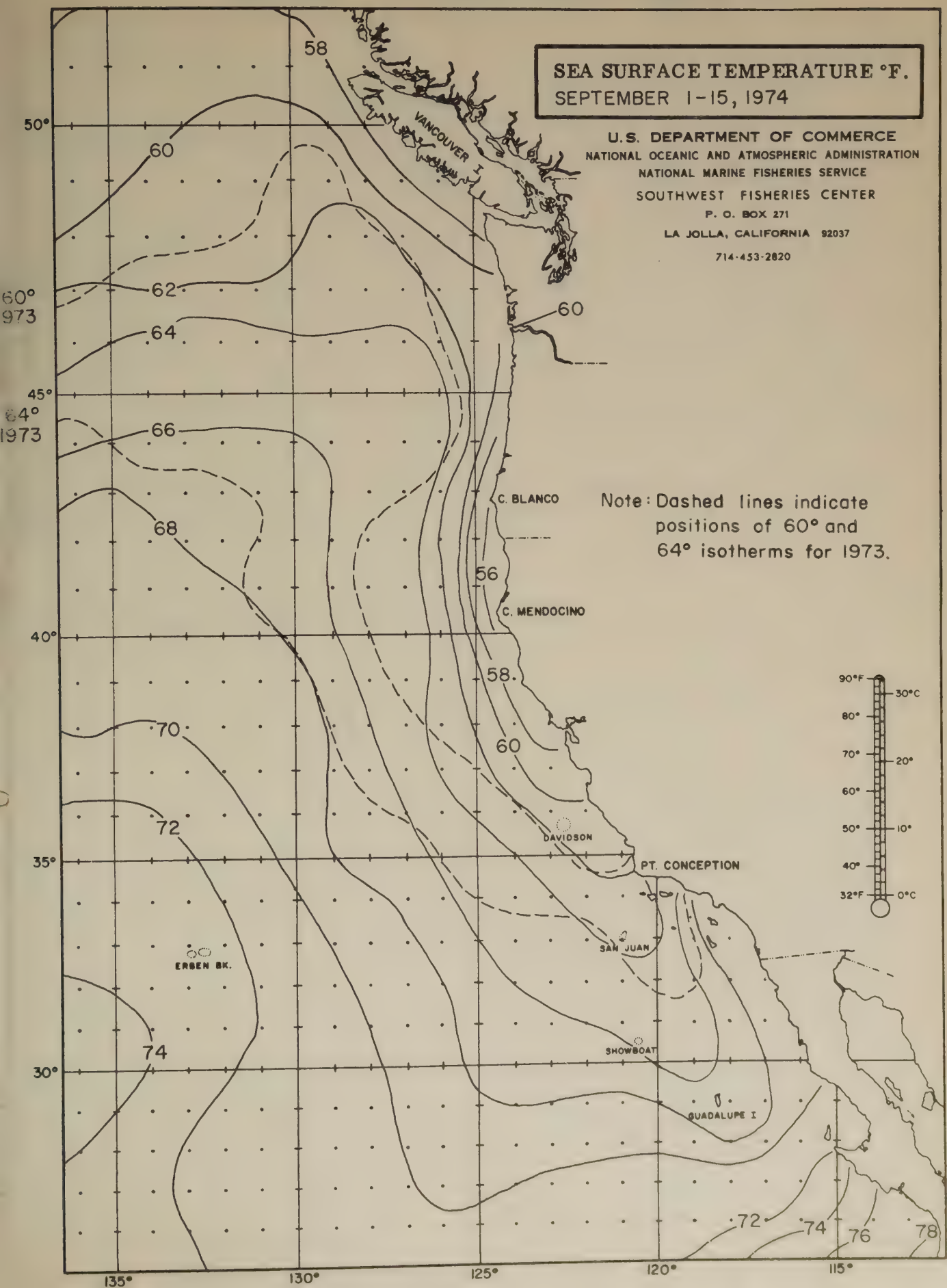
AUGUST 31—SEPTEMBER 4, 1974

MARIPOSA (also the Haw. Enterprise where indicated)

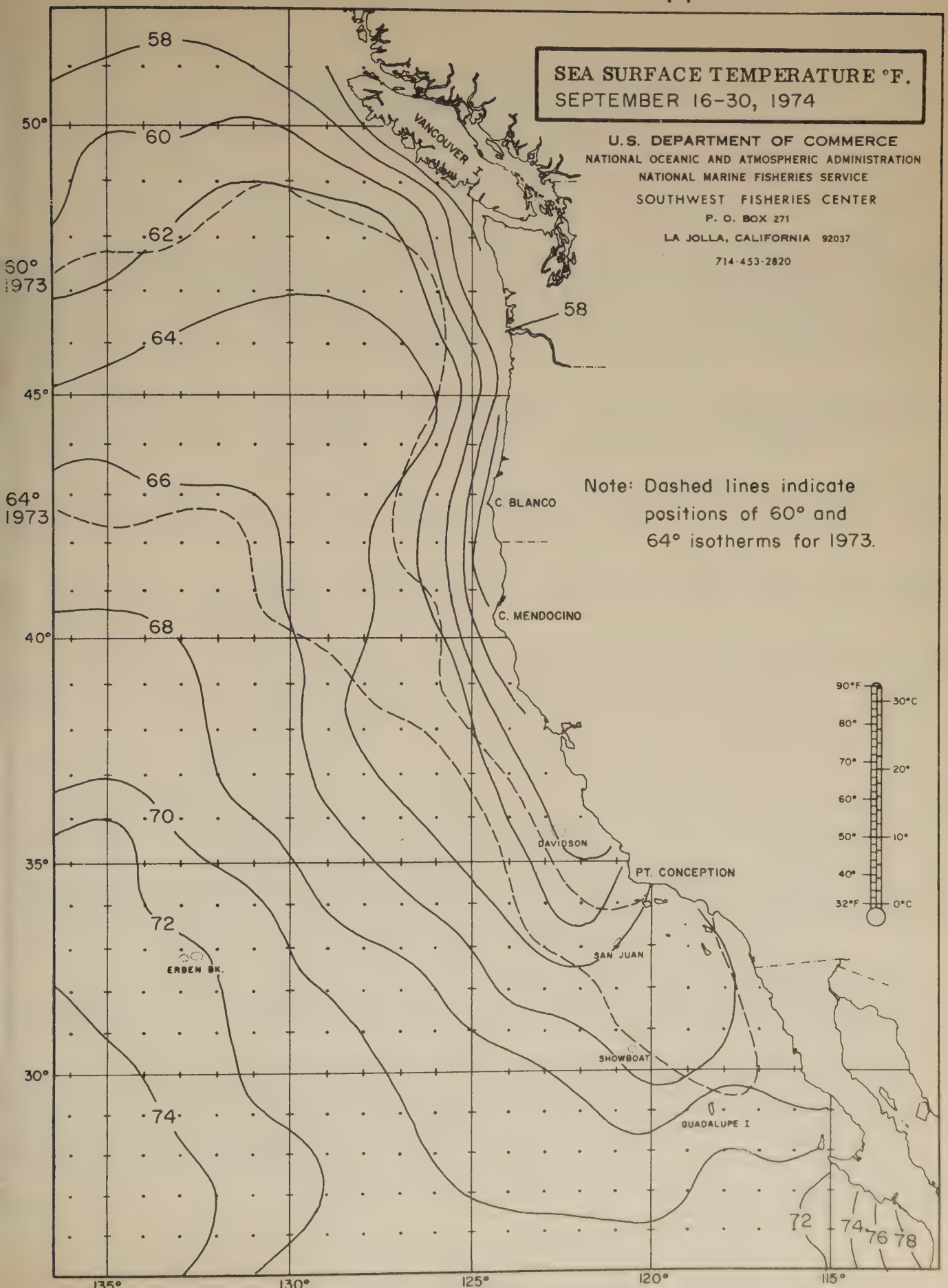
VOYAGE 48



FISHING INFORMATION – supplement



FISHING INFORMATION – supplement



UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92037

BULLETIN No. 74-7

GOOD ALBACORE CATCHES CONTINUE NORTH OF VANCOUVER ISLAND

Jigboats fished mainly in four areas along the North American west coast during most of the last 2 weeks August. A large fleet worked between Cape Scott, Vancouver Island and Cape St. James, Queen Charlotte Islands le others were scattered from Newport to Cape Blanco, Cape Mendocino to Point Arena and Monterey to Morro Bay. tboats fished off central California, Cape Blanco and from northern Oregon to the Dellwood Knolls. During this me, the most consistent area of jigfishing appeared to be in the vicinity of the Dellwood Knolls. Top catches ged from 200-600 fish a day with boats usually averaging between 100-200 fish/day/boat. Fish were of mixed sizes ti 11-15 pounds predominating and water temperatures were 58-60°F (14.4-15.6°C). Catches of approximately a ton r boat were also reported off Esperanzo Inlet, Vancouver Island on August 28.

The Newport-Cape Blanco area also produced good scores of 100-300 fish during most of the last 2 weeks of gust. Much of the fishing gradually moved southward, and by the end of August decreasing catches were made mostly the Cape Blanco area. Mean scores were generally 60-100 fish/day/boat by boats fishing 30-100 miles off the coas mixed-size fish which averaged 8-12 pounds.

Poor weather conditions between Cape Mendocino and Point Arena hampered fishing efforts, and fishing tivity decreased as many boats left this area by late August. Some scores of 200-400 fish were reported from 16-1 les off Cape Mendocino, near the Gorda Seavalley and off Point Arena. Again, smaller average scores of 40-100 sh/day/boat were reported by boats that fished this area.

Fishing off central California was scattered as small commercial catches were made from Morro Bay to Santa uz. Scores were mostly 20-60 fish/day/boat on mixed-size fish with a few high catches of 100-150 fish. Larger bacore weighing more than 20 pounds were caught nearshore, but many 7-12 pound fish were also caught farther off- ore. Poor weather also affected fishing in this area.

Baitboats reported catches of 500-600 fish off Cape Blanco on August 19, with most fishing from northern egon and northward. The baitboats worked as close as 10-20 miles offshore and recorded some scores of 8-10 tons day; however, average catches were smaller. Good catches of up to 10 tons were also reported in the Dellwood olls area while smaller catches of up to 2 tons were made by smaller baitboats off Morro Bay.

San Diego sportboats had inconsistent catches during the last 2 weeks of August while fishing near the 95-fathom spot. Daily scores fluctuated from less than 10 fish to 334 fish on mainly 6-12 pound albacore.

The three AFRF chartered boats scouted and tagged albacore from Queen Charlotte Islands to Point Arguello or much of the last 2 weeks of August. All fishing information from these vessels is being passed on to the fleet direct radio contact and through the La Jolla Laboratory's daily albacore fishing broadcasts to as many albacore oats as possible. Good catches such as the 503 fish score recorded by one of these vessels southwest of Cape . James have aided in locating commercial concentrations of fish for the albacore fleet. The charter boat that orked in Canadian waters made good catches; however, vessels fishing from southern Oregon to northern California nd from northern California to Point Arguello had only a few days of 100 fish catches. These scores were reported rom 100 miles west of the Siuslaw River and off Point Arena. Smaller catches of 60-80 fish were made off Point Sur any fish of 7-9 pounds were caught by the chartered vessels off Oregon and California in the offshore areas. By ne end of August, the AFRF chartered boats had tagged about 600 albacore.

During the second half of August, sea surface temperatures decreased by 1-2°F (0.6-1.1°C) in near shore reas along the Pacific coast, except between Cape Blanco and Cape Mendocino and also south of Point Conception nere temperatures rose 2-4°F (1.1-2.2°C) from average values during the first part of the month. Consequently, ost coastal temperatures that were above normal edged closer to normal or to slightly below normal values.

According to the Long Range Prediction Group of the National Weather Service, average atmospheric pressure re expected to be above normal over the Pacific coast throughout September. These conditions usually cause requent periods of strong north-northwesterly winds along the southern Oregon and California coasts during summer nd early fall months. It is also expected that storm activity around Vancouver Island and the Queen Charlotte slands will be less intense than normal, which should allow favorable fishing conditions to continue at least hrough the first half of September.

ptember 4, 1974

Staff, Albacore Fishery Investigations
R. Michael Laurs, Leader

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BULLETIN No. 74-8

JIG FISHING INCONSISTENT, BUT BAITBOAT CATCHES GOOD IN PACIFIC NORTHWEST

Jigboats and baitboats made some good catches in the Vancouver Island area during the first 2 weeks September; however, many jigboats left the Pacific Northwest in early September because of poor fishing and ded for central California waters. Jigboats averaged 50-80 fish/boat/day with top scores of 100-150 fish m Estevan Point, Vancouver Island to Cape St. James, Queen Charlotte Islands during September 3-5. Fishing n became very spotty and catches were small until September 12-15 when scores of 150-300 fish were reported r the southern tip of Vancouver Island. Baitboats, meanwhile, were doing well in the Dellwood Knolls vicinity some scores of 3-10 tons a day were reported.

Jigfishing off the southern Washington, Oregon and northern California coasts was slow from September 5. Fair scores of 50-100 fish were reported off Cape Blanco on September 3, but catches dropped and many ts left this area. Better catches were made between Point Arena and Cape Mendocino; however, except for a good catches of 100-200 fish from 15-90 miles off Point Arena on September 3-6, scores have been small. Poo ther conditions were also a factor off northern California.

The Santa Cruz-Point Sur area produced scores of 20-75 fish per boat with highs of 150 during early ptember when weather conditions permitted fishing. Fish were of mixed size with 8-15 pounders predominating. erage catches increased to 100-150 fish with highs of 300-400 fish on September 13-15. Unfortunately, winds creased on September 16 and some of the boats in this area returned to port.

Sportboats and smaller baitboats reported fair to good catches off Morro Bay, but fishing was very consistent. Baitboats off the Columbia River also had inconsistent fishing; however, their catches were as gh as 5-6 tons a day.

Two of the three AFRF chartered vessels returned to port on September 6 after working from Estevan int, Vancouver Island to the Columbia River and Point Reyes to the Davidson Seamount. Small catches were re- rded by these boats except on September 3 when scores of 74 and 131 fish were made off Estevan Point and 110 les west of Point Reyes, respectively. The third chartered boat also had small catches and returned to port o ptember 10 after fishing from Cape Flattery to the Columbia River. As of September 15, approximately 750 bacore have been tagged by these chartered vessels.

Sea surface temperatures over most of the eastern North Pacific usually reach maximum values due seasonal warming by the first week of September. However, this year warming continued throughout the first lf of September, and surface temperatures increased by 2-4°F (1.1-2.2°C) between the North American coast d 135°W longitude. Strong winds along the coast between Cape Blanco and Cape Mendocino caused an exception to is warming trend, and temperatures decreased at much below normal rates in this region.

Because of this anomalous heating, sea surface temperatures are up to 2°F (1.1°C) above normal in st offshore waters. Slightly below normal temperatures exist in some areas between Cape Blanco and Cape ndocino and also over a relatively large area west of the Channel Islands and northern Baja California.

According to the Long Range Prediction Group of the National Weather Service, average atmospheric essures are expected to remain above normal off the Pacific coast from mid-September through mid-October. ese conditions should cause frequent periods of strong north-northwesterly winds and rough seas to continue ong the southern Oregon and California coasts. While occasional weather fronts will move inland over the cific Northwest and western Canada, the more intense storm systems are expected to move on a northerly track to eastern Alaska.

ptember 17, 1974

Staff, Albacore Fishery Investigations
R. Michael Laurs, Leader

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BULLETIN No. 74-9

BAITBOAT CATCHES REMAIN GOOD IN THE PACIFIC NORTHWEST WHILE JIGBOATS REPORT SPOTTY FISHING ALONG ENTIRE COAST

Jigfishing was spotty during the last 2 weeks of September; however, baitboat catches were very good in the ss Harbor-Destruction Island area and in the vicinity of the Dellwood Knolls during much of this period. Bait- catches were usually between 4-15 tons a day.

Jigboats, meanwhile, were also able to get some good but spotty fishing near the Dellwood Knolls and north hraham Island in the Queen Charlottes. Scores of 60-300 fish per day were reported during parts of the third in September.

The areas 70-90 miles offshore between Destruction Island and Willapa Bay, 50-60 miles west of Redding Rock, niles off Shelter Cove and off Point Arena also produced some fishing from September 16-30. The location off nington was developing into a good fishing area when average catches of 125 fish per boat were made on 9-11 pound n on September 23; however, strong winds and rough seas forced boats to leave this area on September 25. Although ther conditions improved a few days later, those jigboats that returned reported only small catches.

Fishing off central California was centered between Davidson and Guide Seamounts. High scores were mostly 250 fish a day, but many 30-50 fish catches were also reported. Fishing was mainly 20-45 miles offshore; however, September 25 more boats were moving farther offshore. The average size of fish taken was 10-12 pounds with ger fish caught closer to shore.

The AFRF chartered boats fished from Cape Flattery to San Juan Seamount during most of the last 2 weeks of tember. The only 100-fish or better days were recorded from 80 miles offshore between Destruction Island and lapa Bay and 80 miles west of Monterey. About 850 tags have now been released by the chartered boats.

Preliminary landing figures indicate that this year's catch has already exceeded the total catch of 1973.

During the second half of September, sea surface temperatures decreased by 1-2°F (0.6-1.1°C) from values ing the first part of the month along most of the Pacific coast, except for a region between Point Arena and terey where temperatures rose slightly. Consequently, coastal temperatures that were mostly above normal edged ser to normal or to below normal values.

In most offshore areas between 125-135°W longitude, little change occurred between the first and second ves of the month, and surface temperatures remained 1-2°F (0.6-1.1°C) above normal. The area of 1-2°F (0.6-1.1°C) ow normal temperatures that existed off southern and Baja California expanded northwestward to about 37°N and ends from the coast out to about 300 miles offshore.

According to the Long Range Prediction Group of the National Weather Service, the major storm systems that elop in the Gulf of Alaska are expected to follow a northern track into southeastern Alaska and northwestern ada during October. However, weather fronts that pass over the Pacific Northwest coastal regions are expected to ur at the normal frequency for this time of the year, and, consequently, there will be periods of strong south to thwesterly winds and rough seas. These frontal passages are not expected to extend very far southward, and ther conditions should improve off northern and central California as the strong north-northwesterly winds valent during the summer months begin to weaken.

tember 30, 1974

Staff, Albacore Fishery Investigations
R. Michael Laurs, Leader